Operation Madison County HazMat Incident Table-Top Exercise After Action Report



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Acronym List

AAR After Action Report

CDC Centers for Disease Control

DPHHS Dept. of Health & Human Services

EAS Emergency Alert System
 EMS Emergency Medical Service
 EOC Emergency Operations Center
 EOP Emergency Operations Plan

ER Emergency RoomFOUO For Official Use OnlyHAN Health Alert NetworkHAZMAT Hazardous Materials

HCC Hospital Command Center
 ICP Incident Command Post
 ICS Incident Command System
 JIC Joint Information Center

LEPC Local Emergency Planning Committee

MADCO Madison County

MCI Mass Casualty Incident

MT Montana

NIMS National Incident Management System

PH Public Health

PPE Personal Protective Equipment
RTS Responder Training Solutions

SCBA Self-Contained Breathing ApparatusSHMIRT State HazMat Incident Response Team

TTX Tabletop Exercise

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Executive Summary

<u>Operation Madison County</u> was a tabletop exercise which focused on response to a Hazardous Materials incident in Ennis, MT near the intersection of State Highway 287 and US Hwy 287. Our purpose was to help Madison County to:

- 1) Enhance response capabilities through development of partnerships, coordination capabilities and effective communication processes between all local response entities, and
- 2) Assess and validate county and local plans as well as established mutual aid agreements and,
- 3) Evaluate participating agencies' performance in accomplishing pre-established exercise objectives

The exercise focused on the first few critical hours of the activation of the jurisdiction's on-scene Incident Command System (ICS) and the county Emergency Operations Center (EOC) and these entities' coordination with each other and the various agencies responding to the incident.

This After Action Report (AAR) is intended to assist local agencies in strengthening emergency preparedness plans by identifying and evaluating strengths and areas of concern observed during the exercise and by making recommendations for corrective actions as appropriate.

Although many issues were recognized and discussed during the exercise, the MADCO TTX was designed to:

- Exercise the joint response capabilities between on-scene responders, the EOC, public health and local healthcare partner(s) in key response categories of:
 - Command, Control & Communications
 - Protective Actions and Public Information
- Identify strengths and areas needing improvement.

KEY ACHIEVEMENTS:

- Good understanding of ICS and HazMat response by local fire departments.
- ♦ Good understanding of limitations and complications of PPE in responding to a vehicle accident involving both HazMat and potentially fire.
- ♦ Good cooperation and collaboration between IC and EOC Manager.
- ♦ Early discussion of public information campaign with good coordination between partners.
- ◆ Great enthusiasm among cooperating agencies such as Public Health and the Hospital to assist. (No turf issues)

KEY CONCERNS:

- ◆ Use of Incident Command System (ICS) and National Incident Management System (NIMS) concepts, guidelines, and tools at the community level was substandard.
- ♦ Lack of community-wide familiarity with local EOP and HazMat plan.

- ♦ Uncertainty with exactly which local leaders should be in Command & General Staff positions.
- ◆ Lack of understanding how to implement or manage and effective Public Information Campaign or how to activate the Emergency Alert System (EAS).

Additional training in ICS tools and concepts and aggressive education of local responders on local plans and procedures needs to occur within the jurisdiction(s). Based on Operation Madison County, a local response tomorrow to a real-world incident such as presented in the exercise using current in-place procedures and systems, would likely be frustrating and substandard due to the above mentioned concerns. In order to mount an adequate, efficient response, there should be further reviewing and upgrading of plans and procedures, additional training of personnel, and more exercises and evaluation of capabilities.

Exercise Overview

County: Madison County

Exercise Location: Virginia City, Montana **Exercise Name:** Operation Madison County

Exercise Date: July 31, 2007

Sponsor: Montana DPHHS

Type of Exercise: Table Top **Exercise Focus:** Response

Classification: For Official Use Only (FOUO) **Hazard Scenario:** Hazardous Materials Release

Actual Occurrence: No

of Participants: Facilitator/Evaluator-1 Players-12 Observers-13

EXERCISE GOALS & OBJECTIVES

Operation Madison County was a tabletop exercise simulating a HazMat release due to a transportation vehicle accident. The exercise purpose was three-pronged and intended to:

- 1) Enhance local response capabilities through development of partnerships, coordination capabilities and effective communication processes between local response entities, and
- 2) Assess and validate county and agency plans as well as established mutual aid agreements in response to a HazMat incident and,
- 3) Evaluate participating agencies' performance in accomplishing pre-established exercise objectives which included demonstrating the ability to:
 - a. Direct coordinate, and control emergency activities using ICS.
 - b. Alert and activate personnel for emergency response and maintain operations until the situation is brought under control.
 - c. Mobilize, track, and demobilize equipment, people, and other resources in support of emergency operations.

- d. Develop and maintain a coordinated action plan to accomplish operational objectives.
- e. Identify and implement appropriate actions to protect emergency workers and the public.
- f. Coordinate and disseminate timely and accurate information to the media and the public.

SCENARIO

It is 5:30 p.m. on Tuesday, July 31st. The temperature is a warm 84 degrees, and the humidity is 16 percent. The wind is blowing at 7 mph WNW. The weather forecast for Ennis calls for a 10% chance of evening thunderstorms developing from the west. Little League baseball games are just starting at the Ennis Lion's Club Park. Some of the parents are cooking hotdogs and hamburgers over open flames to feed the players after the games. while many others are enjoying recreational activities at the park. Several teenagers are lounging in the shade near the pond while several more children are by the bridge throwing rocks into the river..

A tractor trailer has just pulled into town traveling south on US 287. The truck passes by Madison Valley Hospital and Clinic and heads for Main Street. The truck is carrying twenty 55-gallon closed-head steel drums of liquid chemical. As the truck approaches the junction of US 287 and State 287 near Main and Chowning streets, a green 1997 Pontiac Grand AM cuts across in front of it causing a collision. The truck veers to the left, jackknifes, and comes to a stop across Main. Several of the drums roll off the back of the truck and break open as they impact the roadway just past the intersection of Chowning and Main. People on Main Street hear the sound of screeching tires, crunching metal, and look up to witness the crash. Several of them rush forward to help the victims.

EVALUATION PROCESS

The evaluation methodology came primarily from the current HSEEP Exercise Evaluation Guides (EEG)s and other Department of Homeland Security guidance to include; the Target Capabilities List and the Universal Task List.

A trained and experienced facilitator/evaluator was on site to facilitate the exercise and to observe actions, conversations, and decisions.

Immediately following the exercise, the Exercise Facilitator conducted a hot wash to capture participant's comments and opinions. Additionally, all participants were provided a participant feedback form to add additional comments and to self-evaluate the exercise. This AAR has been prepared based on the evaluator's observations and comments from the participants.

EXERCISE SCHEDULE

1730	STARTEX
1730-2000	HazMat Incident TTX Facilitated Discussion
2000-2030	Exercise Debrief (Hot Wash and Participant Feedback Forms)
2030	ENDEX

Analysis of Capabilities

Objective 1: Demonstrate the ability to direct, coordinate, and control emergency activities using ICS.

			Not
Did the participants	Yes	No	Observed
1. Establish the initial incident command structure?			
2. Conduct an initial briefing for the arriving responders?			
3. Establish and maintain HazMat Control Zones?		\boxtimes	
4. Resolve any communications problems?			
5. Take offensive action to stop the leak or prevent further release?			
6. Ensure appropriate disposal of contaminated materials?	\boxtimes		

Key Concerns/issues identified:

- Lack of availability and familiarity with local plans.
- Uncertainty of local Command Structure beyond IC (esp. who should be in Command & General Staff positions)
- General lack of ICS experience and familiarity
- Lack of adequate local resources to meet all objectives
- Lack of adequate communications systems to reliably communicate (and therefore coordinate) between the EOC and ICP.

Unfamiliarity with the local emergency plans, as well as a failure to have enough copies of those plans at the exercise, led to difficulties in organizing an effective and efficient, objective-based response in accordance with local policies and procedures.

Unfamiliarity with the ICS and the roles and responsibilities of the various ICS positions by cooperating agencies, as well as uncertainty as to which local leaders should fill staff positions led to some confusion in managing issues outside of the HazMat release itself. Fire has appropriate training and equipment for a community of this size and responded adequately to manage the incident on-scene until specialized help could arrive. However, the lack of enough resources locally to implement certain protective actions and a general lack of ICS experience by other agencies led to some confusion as to how to organize ALL of the resources responding to the incident.

Communications equipment shortages, distance, and terrain all work against responders in this jurisdiction to significantly impact their ability to reliably communicate.

Interface between the EOC, ICP as well as with some state and even federal assets would likely prove difficult if this jurisdiction had to respond to this incident tomorrow due both to effective communication equipment shortages and a general lack of enough ICS experience to coordinate things at the Jurisdiction level rather than just at the ICP.

Recommendations:

- 1. Review, revise, and disseminate copies of key response plans such as the County EOP and it's annexes to all agencies and key personnel. Utilize CD media if hardcopies are too cost prohibitive.
- 2. Develop and implement a training plan to familiarize <u>all</u> jurisdiction responders with response plans, the County EOP, and the ICS. You have an excellent EOP and an adequate HazMat Annex, become familiar with them and use them!
- 3. Review and revise specific functional and hazard annexes in the EOP to "pre-load" certain key individuals in Command & General Staff positions within the jurisdiction. Try to have primary and alternate persons for each of the key positions needed.
- 4. Continue working on the county radio system to get it up to P-25 compatibility standards and to meet the consortium recommendations discussed in the EOP (Sec 9.4 b). In the meantime, review, revise, and/or draft a county communications plan to address the distance and terrain between the EOC and likely incident sites as much as possible. ICS form 205 may prove useful. *Remember if you can't communicate, you can't coordinate!*

Objective 2: Demonstrate the ability to alert an	ıd activate p	ersonnel for	emergency
response and maintain operations until the situation i	is brought und	der control.	
			NT 4

			Not
Did the participants	Yes	No	Observed
Dispatch initial response resources in a timely manner?			
Notify appropriate regulatory agencies and elected officials?			
Determine resource needs and process the requests?	\boxtimes		
Request additional resources if needed?	\boxtimes		
Request assistance under the State HazMat Incident Response Plan?			

Key Concerns/issues identified:

- Lack of adequate local resources to meet all objectives
- Lack of adequate communications systems to reliably communicate between the EOC and ICP.
- Lack of adequate communication between ICP and Hospital.

Due to the high number of volunteer responders (more than 75%), it is a toss-up as to how many responders will actually show up on-scene. Those that receive the page and those that are available will all likely respond, but that number varies for every incident. Even if all volunteers show up, there is still a significant lack of trained HazMat Technicians in the jurisdiction, and an even greater lack of appropriate and adequate PPE. Fire is the only discipline that has both the appropriate training (Operations Level) and the appropriate PPE (Level B) for their role in a HazMat incident. Mutual Aid agreements with surrounding jurisdictions exist for getting additional resources, but very few people are familiar with those agreements or how to implement them.

Communications problems due to equipment shortages and terrain, and no pre-established written procedures for communicating directly from the scene to the hospital led to some frustration during the exercise. The hospital needs updates and information on a regular basis from any scene that is going to be sending them patients. This jurisdiction, like many others, leaves communications with the hospital up to EMS. This is a common problem however, as the EMS folks themselves are usually too busy with triage, treatment, and transport to communicate with the hospital until they are in the ambulance with patients on the way. This does not give the hospital enough lead time to prepare to receive mass casualties, especially potentially contaminated ones. The hospital must be kept in the loop from the beginning in order to mount an effective response themselves.

Recommendations:

1. Review, revise, and/or draft adequate Mutual Aid agreements to try and fill the resource shortage gaps in Madison County.

- 2. See <u>recommendation #4</u> under Objective 1 above for specific suggestions on the communications system.
- 3. Set up a sub-committee under the LEPC to address communications between the ICP and the Hospital. Try to draft an SOP that can be added to the County EOP that includes situation and assumptions, concept of operations, roles and responsibilities, ICS structure, and of course a comms plan itself (again ICS form 205 may prove helpful). Then, train, test, and exercise this communications plan under different types of scenarios.

			Not
Did the participants	Yes	No	Observed
Determine resource needs and request resources as needed?			
Request dispatch of HazMat teams to the scene?	\boxtimes		
• Identify a location for a staging area?	\boxtimes		
Establish a Planning Section or Resource Unit to handle check-in and resource tracking?		\boxtimes	
Determine additional resource needs and process requests?	\boxtimes		
Deploy additional resources for traffic control and protective actions?	\boxtimes		
Call for mutual aid assistance from other jurisdictions?			

- Lack of adequate local resources to meet all objectives (already addressed)
- No established planning section or resource unit to handle check-in and resource tracking.

Accountability of fire assets on-scene is handled by their SOP procedures. Same for law enforcement and EMS. "Check-in" initially on an incident is mainly handled by Dispatch when the resources reports that they are on-scene. However, in a HazMat incident, particularly one that is "over the hill" from the dispatch center accountability of resources is crucial. The general lack of PPE and training among local responders, the difficulty in establishing and maintaining hazmat exclusionary zones, and no organized on-scene check-in and accountability system common to ALL of the responders is an accident waiting to happen.

Recommendations:

- 1. Review and revise the EOP and its Annexes to address responder accountability under the ICS as appropriate. Establish a common SOP for "check-in" and accountability at the scene that can apply to, and be used by, all agencies, not just those that report to Dispatch.
- 2. Make check-in and resource tracking a priority in training and exercises.

Not Observed
Observed

Key Concerns/issues identified:

- No formal Incident Action Plan or planning process.
- Disjointed communication between ICP and EOP led to suboptimal evacuation and recovery operations.
- No available Evacuation Plan or Annex.

The IC established initial objectives that were dispersed to on-scene responders in an effort to gain some incident stability. However, once initial defensive actions were complete, there was never any discussion on establishing a formal planning process or creating a formal written IAP for the incident, something that is mandated by OSHA for a HazMat incident of this size and scope.

Additionally, although someone was designated as a Plans Chief and discussion on drafting and carrying out an evacuation plan did take place, it is likely that the time constraints of this type of incident would preclude any formal written evacuation plan being drafted on the spot.

Recommendations:

- 1. Review and revise the EOP and its Annexes to address Protective Actions such as Shelter-In-Place and Evacuation. Pre-plan and identify such things as early warning systems, evacuation routes, pick-up points, screening points, and shelters for evacuees. Pay special attention to the number and locations of Special Needs populations and address the issues surrounding evacuation and sheltering of Special Needs victims.
- 2. Make evacuation and sheltering planning a priority for the LEPC or it's subcommittees.

Oid the participants	Yes	No	Not Observed
Use the ERG to determine the risks posed?			Observed
Establish a perimeter around the incident?			
Determine the required PPE and verify that all responders have appropriate PPE?			
Determine the number and conditions of victims?			
Triage, provide immediate treatment, and transport the injured personnel?			
Notify the closest medical facility to expect the injured?			
Relocate people at the park to a safe distance uphill and upwind?			\boxtimes
Extinguish the Parents campfire and check for other sources of ignition?			\boxtimes
Notify local emergency management personnel and make a determination about whether the EOC should be opened?			
Extricate victims in the car, retrieve the bill of lading and MSDS, and request supporting information from the truck owner?			
Restrict access to the accident scene?			
Expand the perimeter as necessary in all directions around the incident site?			
Establish monitoring at the highway site and plan for monitoring in the park area?			\boxtimes
Coordinate with the technicians to monitor air and water conditions?			
• Monitor responder safety throughout the cleanup process?			

- Lack of adequately trained responders and PPE for HazMat incidents.
- Resource shortages affected all operations, esp perimeter control, alert & warning, and protective actions (*e.g. evacuation*).
- Confusion surrounding exclusionary zones vs. victim rescue, triage, and treatment.
- Unclear victim tracking procedures.
- Suboptimal communication between ICP and Hospital.

Mutual Aid agreements have helped with the shortage of resources issue however, many of those assets would have to travel some distance to respond to an incident in Madison County. Fortunately for this scenario, firefighter "bunker gear" with SCBA would have been adequate for victim rescue. But if a more toxic or volatile substance had been released, this may not have been the case. Fire does have Level B suits, but those are not flame retardant and so present another set of problems when the chemical is both toxic and flammable.

Local resources did well in articulating priority objectives, but when discussion turned to just how many people it would take to accomplish those objectives versus the time constraints, it became apparent that many of the operations such as public warning and evacuation would be severely hampered, if not impossible, by resource shortages.

Exclusionary zones were never clearly defined and EMS does not have adequate PPE or training to be in the Hot Zone. Therefore, non-ambulatory victims would have to rely on fire to remove them from the hot-zone, decon them as appropriate, and then turn them over to EMS for triage and transport. Many exposed and critical victims would not survive long enough to complete that process. The decision to decon the patients at the scene or the hospital was never completely hashed out. The hospital did not want contaminated patients coming in the ambulances or entering the building, but fire simply did not have the resources to conduct victim rescue, defensive operations, and decon all at the same time.

Additionally, it was acknowledged that most of the ambulatory patients would likely self-transport, or even walk themselves to the nearby hospital, thus creating another problem with regard to the exclusionary zones and perimeter control.

The IC makes the decision as to whether or not to decon at the scene. If the decision is to NOT decon at the scene, the IC is responsible for making sure EMS and the hospital can safely transport and then decon those patients (if necessary). It also the IC responsibility to make sure those entities are informed of the decision and whether or not it is even deemed necessary.

Confusion over these issues completely precluded any discussion on actual victim tracking and accountability. The likely majority of patients in this scenario would be ambulatory and would self transport, making victim tracking at the scene and the hospital extremely difficult to coordinate.

As addressed earlier in this AAR (*Objective 2*), no formal SOP exists for direct communications between the ICP and hospital resulting in both confusion and frustration for the hospital in trying to prepare to receive multiple casualties that may have been contaminated.

Recommendations:

1. Have all responders review the EOP and HazMat annex to make sure they clearly understand their roles and PPE (or lack thereof). Working on check-in and accountability at the incident

- scenes will serve a further function of improving safety by helping prevent people from being in the "wrong place at the wrong time".
- 2. Make sure all responders are familiar with the HazMat Annex and understand what exclusionary zones are and how they will be marked at an incident.
- 3. Draft a communications SOP between the ICP and Hospital (see also <u>recommendation #3</u> under Objective 2).
- 4. Review SOP for victim tracking and work on coordinating that process between the ICP, EMS, and the Hospital simultaneously.

Objective 6: Coordinate and disseminate timely and a and the public.	accurate info	rmation to the	e media
Did the participants	Yes	No	Not Observed
• Make necessary notifications?			
Appoint a PIO to develop media releases and EAS messages?			
Activate and implement the EAS?		\boxtimes	
Establish a JIC?		\boxtimes	
Appoint rumor-control personnel?			
Prepare updated EAS message that includes a disclaimer about the toxic release and an updated report of the situation?			
Develop a media release requesting people use 911 only for emergency calls and to stay away from the accident area to avoid further congestion?	\boxtimes		
Issue a final media release indicating the termination of command and a successful response?			

Key Concerns/issues identified:

- Lack of understanding on how to activate and use the EAS.
- Lack of understanding on establishing and managing a JIC.
- Lack of familiarity with the Public Information Annex to the EOP

The need for a Public Information Officer (PIO) was recognized early on and a PIO was appointed. However, there was confusion about how best to get the messages out to the media and public and who needed to "sign-off" on those messages. Furthermore the necessity of establishing a JIC early and how to do so and manage it was also generally misunderstood by the participants. No copy of the PI Annex was apparently present and none in attendance were familiar enough with it to answer these questions.

Recommendations:

- 1. Review, revise, and become familiar with the Public Information Annex. Ensure that it addresses activation of the EAS, who is authorized to do so, and where and how to establish and manage an local JIC.
- 2. Appoint and train several PIOs for the County. Make sure they are familiar with the PI Annex.

Form partnerships with the local and surrounding media outlets and inform them of the PIOs and the local procedures for seeking and reciving information during an emergency. (e.g. who to call, where to go, where not to go, etc.)

PARTICIPANT RECOMMENDATIONS AND ACTION STEPS:

(Bold items are those what were listed repeatedly by multiple participants)

- 1. Based on the exercise and the tasks identified, the following is a list of top issues and/or areas that were identified by the participants as needing improvement:
 - Public Information
 - Familiarity with local Emergency Response Plans
 - Triage/Staging Plan
 - Mutual Aid agreements
 - HazMat training
 - Childcare for staff that gets called in
 - Improved Communications plans and protocols
 - Revisions to EOP and it's Annexes
 - Improved understanding of activation and implementation of ICS
 - Activation procedures for EAS
 - Alert protocols for entities that are not tied in with county dispatch
 - Improved Planning process during the incident
 - Evacuation planning
 - Clearly defining objectives
- 2. Action steps that should be taken to address the issues identified above. For each action step, indicate if it is a high, medium, or low priority.

HIGH

- More tabletops & drills
- Improve local Public Information capabilities.
- Work on agreements and work into facility disaster plans
- Provide more HazMat Training
- Work on getting child care into facility plan
- Update local EOP
- More training for PIOs
- Develop EAS protocols
- Comms- update handheld radios
- More ICS Training
- Make plans more available

MEDIUM

- More ICS training
- Alert & warning protocols

LOW

• Provide educational materials to the community and tourists.

- 3. Action steps that should be taken in your area of responsibility and/or who should be assigned responsibility for listed action items?
 - Work on a hospital based AM radio capability for disseminating emergency public information (Safety/Risk Management Officer)
 - Hospital Disaster Planning Committee
 - LEPC
 - Utilize CERT volunteers for public information etc.
 - Improve communications plan (annex)
 - DES Coordinator
 - Make emergency call lists readily available
 - Sharing of services and staff between hospital and nursing home
- 4. List the equipment, training or plans/procedures that should be reviewed, revised, or developed.
 - PIO & Communications SOPs
 - HazMat Training
 - Mutual Aid Agreements
 - Rewrite hospital Policies & Procedures
 - Hospital Communications Plan
 - SOP for activation and using EAS
 - Review & Revise EOP
 - All entities become more familiar with EOP
 - Evacuation Plans

Conclusions

Additional training in ICS tools and concepts and aggressive education of local responders on local plans and procedures needs to occur within the jurisdiction. Based on Operation Madison County, a local response tomorrow to a real-world incident such as presented in the exercise using current in-place procedures and systems, would likely be frustrating and suboptimal due to the identified issues and concerns. In order to mount an adequate, efficient response, there should be further reviewing and upgrading of plans and procedures, additional training of personnel, and more exercises and evaluation of capabilities.

This After Action Report is a snapshot of the jurisdiction based on evaluations, verbal comments, and observation and is not specific to any single agency.

Based on the results of the exercise and this AAR, local emergency response agencies, as well as regional partners, should consider forming working groups to tackle many of the concerns and issues observed in the exercise and noted in this report.

Following corrective actions, additional training and exercises should be planned in upcoming months for each agency to re-evaluate key areas such as communications, coordination and control, emergency public information, health and medical response, and resource management.

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 NOTHING FOLLOWS	